

CLAIMS

1. A cleaning solution characterized in that it comprises, based on the total weight of the solution:

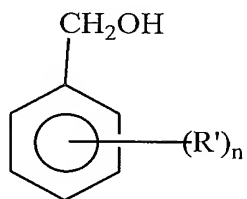
5 - (A) more than 50% by weight, preferably more than 60% by weight, more preferably more than 70% by weight and most preferably more than 80% by weight of at least one lactone;

 - (B) at least one surfactant compound having a HLB ranging from 8 to 15.

10 2. A cleaning solution according to claim 1, characterized in that it further comprises, based on the total weight of the solution:

 - (C) from 0.1 to 20% by weight, preferably from 1 to 10% by weight, more preferably from 2 to 10% by weight of at least one benzyl alcohol, either substituted or not.

15 3. A cleaning solution according to claim 2, characterized in that the component C has the formula:



wherein:

n denotes an integer from 0 to 5, preferably 0 or 1;

20 R' denotes an alkyl group, preferably having from 1 to 5 carbon atoms; or

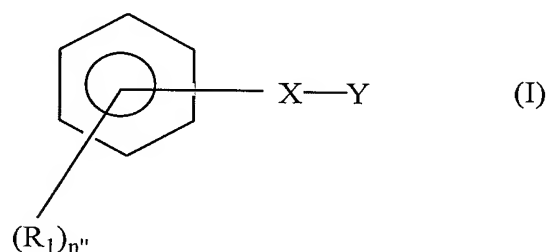
 R' denotes an alkoxy group $-[O-Z]_{n'}H$, wherein Z denotes a divalent alkyl group, preferably having from 2 to 4 carbon atoms;

 n' is an integer from 0 to 10.

25 4. A cleaning solution according to any one of the preceding claims, characterized in that the surfactant B has a HLB ranging from 9 to 14, preferably from 10 to 13.

 5. A cleaning solution according to any one of the preceding claims, characterized in that the surfactant B comprises at least one free hydroxy
30 group.

6. A cleaning solution according to any one of the preceding claims, characterized in that the component B has the formula:



5 wherein:

R_1 denotes an hydrocarbon group, preferably an alkyl group, comprising from 1 to 20 carbon atoms, more preferably from 5 to 15 carbon atoms, most preferably from 7 to 15 carbon atoms;

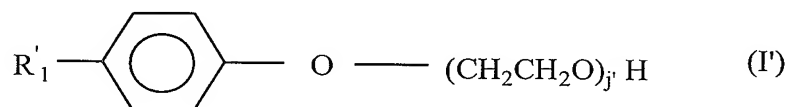
n'' is an integer from 1 to 5, preferably n'' equals 1;

10 X denotes a valence link, -O-, -OCH₂, C=O or (CH₂)_k, k being an integer ranging from 1 to 2;

Y denotes (RO)_jH wherein j is an integer ranging from 2 to 40, preferably from 2 to 20, more preferably from 4 to 15 and most preferably from 6 to 12;

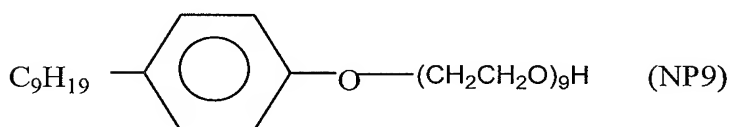
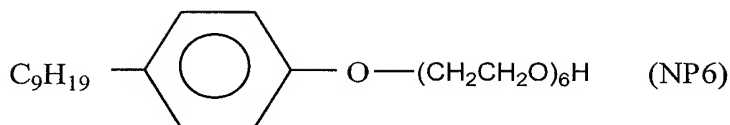
15 R is a divalent hydrocarbon group, having preferably 2 carbon atoms.

7. A cleaning solution according to claim 6, characterized in that the component B has the formula:

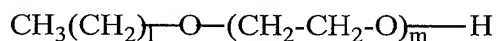


20 wherein R'_1 is an alkyl moiety comprising from 5 to 10 carbon atoms and j' is an integer from 5 to 10.

8. A cleaning solution according to claim 7, characterized in that the surfactant B is chosen from the compounds of formulas:



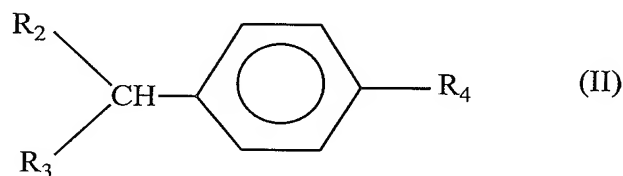
9. A cleaning solution according to any one of claims 1 to 5,
5 characterized in that the surfactant B has the formula:



wherein:

- l is an integer from 6 to 13,
10 m is an integer from 3 to 15.
10. A cleaning solution according to any one of the preceding claims, characterized in that it comprises, based on the total weight of the solution, from 1 to 10%, preferably from 2 to 5% by weight of the surfactant B.
11. A cleaning solution according to any one of claims 2 to 10,
15 characterized in that the component C is benzyl alcohol.
12. A cleaning solution according to any one of the preceding claims, characterized in that it comprises, based on the total weight of the solution, at least 85% of at least one lactone.
13. A cleaning solution according to any one of the preceding claims,
20 characterized in that the lactone is selected amongst the 4 to 6-membered cyclic esters having an ester functional group $-\text{C}(\text{O})-\text{O}-$ in their ring, and derivatives thereof.
14. A cleaning solution according to claim 13, characterized in that
25 the lactone is selected amongst α -angelicalactone, β -propiolactone, γ -butyrolactone, γ -caprylactone, γ -laurolactone, γ -palmitolactone, γ -stearolactone, γ -crotonolactone, γ -valerolactone, δ -valerolactone, γ -caprolactone, δ -caprolactone, γ -gluconolactone and mixtures thereof.

15. A cleaning solution according to any one of the preceding claims, characterized in that it further comprises at least one additional compound (D) having the formula:



5 wherein R_2 and R_3 , being identical or different, are alkyl groups having from 1 to 4 carbon atoms, and R_4 is H or an alkyl group having from 1 to 4 carbon atoms.

16. A cleaning solution according to claim 15, characterized in that the additional compound(s) represent(s) up to 10%, preferably up to 8%, and
10 more preferably up to 5% of the cleaning solution by weight.

17. A cleaning solution according to any one of the preceding claims, characterized in that it has a pH from 4 to 7.

18. A process for cleaning an item soiled by organic materials, characterized in that it comprises dipping the soiled item into a cleaning
15 solution according to any one of claims 1 to 17.

19. A cleaning process according to claim 18, characterized in that the cleaning solution is at a temperature ranging from 40 to 80°C.

20. A cleaning process according to claim 18 or 19, characterized in that the dipping time is 5 minutes or less.

21. A cleaning process according to any one of claims 18 to 20, characterized in that it comprises, after the dipping step of the soiled item into the cleaning solution, dipping the item into a basic aqueous solution comprising from 1 to 10% by weight of potassium hydroxide based on the total weight of the aqueous solution.

22. A cleaning process according to any one of claims 18 to 21, characterized in that the item is soiled by a thermosetting material

23. A cleaning process according to any one of claims 18 to 22, characterized in that the item is made of mineral glass.

24. A cleaning process according to any one of claims 18 to 23, characterized in that the item is a mold for optical lenses, notably ophthalmic ones.

25. A cleaning process according to any one of claims 18 to 24,
5 characterized in that the item has a progressive geometry surface.